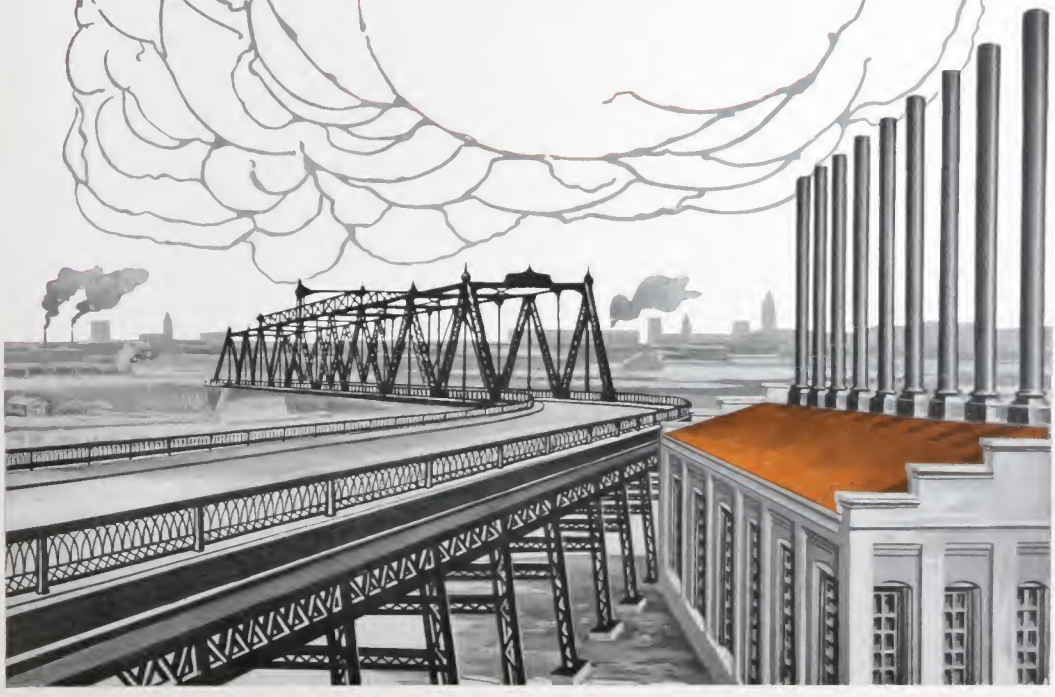
Ironhide

IRONHIDE

-an economical rust-proofing for Steel and Iron

Patton Paint Co.
Milwaukee, Wis.
Newark, N. J.



OKd by purchasing agents and the laboratories of the big users of steel and iron—as the great resistant to rust, weather, gases and abrasion

IRONHIDE

The Inhibitive Rust-Proofing for Steel and Iron

NO doubt about it, rust is the cause of greater, steadier losses than almost any other destructive agent—than of fire for example.

If it is good business to invest in costly preventatives against fire, it is equally sound judgment to invest in the less costly measure to prevent the ravages of the greater destructive agent—*rust*—the great red plague, inevitably sure to attack steel and iron.

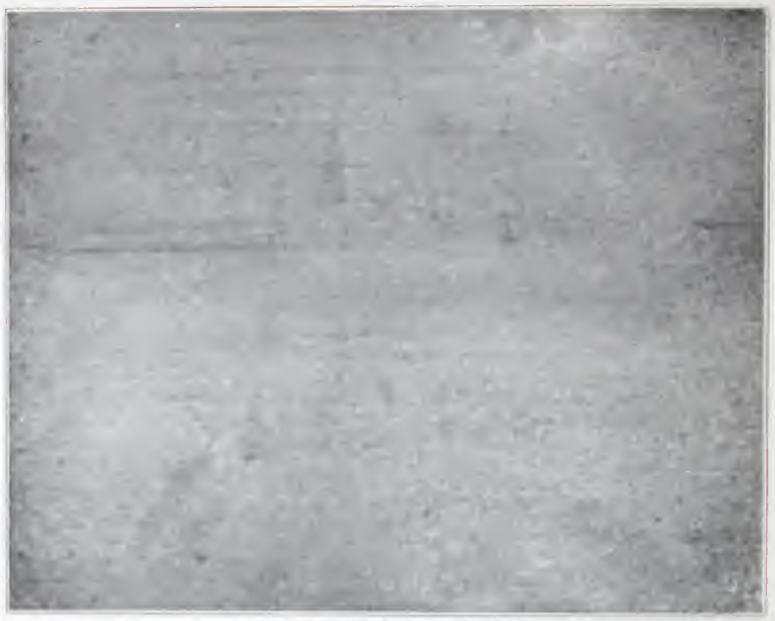
The magnitude and immeasurable variety of steel and iron construction represents incalculable money investment, and to forego the protection of reliable rust-proofing results in rapid and dangerous depreciation.

In city skyscrapers, industrial buildings, etc., steel construction is used, not just because it alone makes possible the colossal structures of today, but also because such construction promises enduring permanence.

Such permanence only can be realized, if there is complete protection against rust, because no unit of steel or iron can remain unweakened by the insidious, cancerous attack of rust.

Conservation of investment—the permanence and safety of steel construction—the practical and profitable use of steel and iron in its countless ways all depend absolutely on the protection afforded against rust.

A true rust-proofing paint is one of the major achievements of scientific paint chemistry and its use is a major economy as well as a safety and durability factor.



WITH INHIBITIVE PIGMENT

WITHOUT INHIBITIVE PIGMENT

General protection is not adequate. The protection must be perfect, otherwise the small exposed surfaces become points of infection, from which the corroding action permeates the body of the metal.

Such protection demands both a perfect rust-proofing paint, and its proper and thorough application.

This adequate protection is only obtainable with a scientific rust-proofing paint, applied according to specifications, and a method of inspection that prohibits the possibility of "skips", and insures the uniform coating of every square inch of surface.

The term "scientific" rust-proofing paint implies the possession of a number of special properties, each of which counteracts one or more of the many rust-stimulating agents—and it also implies the durability to meet the extreme destructive factors to which such a paint is subjected.

A paint of this scientific character can only be the product of a long laboratory and field investigation. It cannot be improvised.

Patton's Ironhide has been produced by this scientific method, and now, after years of general use under the observation of the technical departments of large users, it has become established as the economical and the one hundred per cent effective rust-proofing agent.

By many large users, who have tested various rust-proofing paints for a period of years, Patton's Ironhide is specified without alternative. This is a distinction that justifies the description of Patton's Ironhide as the *scientific* rust-proofing material.

Measured by its greater protective value, it brings a sweeping economy to the broad field of steel and iron construction—and measured by its durability and its labor-saving due to easy working, together with its covering capacity per gallon it is a distinctive low cost rust-proofing agent.

Second National Bank Bldg., Toledo, Ohio

The great strains carried by every unit in structural steel construction, and the charge of static and stray electricity likely to be carried, are factors which intensify the action of rust, together with the additional factors of moisture, and atmospheric gases. The fact that steel work is enclosed and is inaccessible for inspection makes it imperative that the protection of the highest grade inhibitory paint be provided, both as a safety precaution and as a precaution against fast depreciation and costly repairs.

Overcoming the Rust-Stimulating Agents— and Arresting Rust

THE three theories of rust are the Carbonic, the Peroxide and the Electrolytic theories. (See footnote.)

Contributory causes, or stimulators of rust are static and stray electricity, moisture, carbonic acid, chlorine, sulphureous gases, and other fumes common in the atmosphere.

The true rust-proofing paint must interpose an impervious insulating film between these rust-stimulating agents and the surface it protects.

This calls for a paint containing no pigment or ingredient susceptible to the action of any of these destructive agents.

The paint scientists investigating the various pigments commonly used in paints is then confronted with startling facts that many paint pigments are in themselves stimulators of the rusting process.

The final achievement of the Patton technical staff was the grouping of pigments passive under presence of all rusting agents and containing no pigment of rust-stimulating properties.

This product in years of service has been demonstrated to possess the utmost *inhibitory* properties— it arrests the progress of rust and provides an absolute impervious armor against the various agents of rust stimulation.

> —at the same time it has the tenacious adhesion and the wonderful elasticity to withstand the severe contraction and expansion inseparable from the extremes of temperature to which an iron and steel paint is subjected.
>
> —and with these properties, it combines a tough body of greatest resistance to mechanical abrasion, providing an absolutely impervious film impenetrable and unaffected by moisture and deleterious gases.

Mason Street Bridge, Green Bay, Wis.

VIBRATION, the relentless action of moisture, and of expansion caused by ice and snow, heat and cold, demand that bridges be provided with a rust-proofing paint of impervious film and toughest body. Railroad bridges are subject to the additional rusting, and paint-destroying agents of cinders, and gases. Only a scientific inhibitory paint such as Patton's Ironhide can conserve the heavy investment, and prevent the rust-weakening of the structure under such severe service.

Patton's Ironhide Provides a Two-Coat Rust-Proofing Process

It is scientifically impossible to combine all of the essential properties of an effective inhibitory rust proofing in a single product.

The practical method is the use of two products—each possessing distinctive properties, so that, when combined in a homogeneous mass on a surface the coating provides an inhibitory protection against rust, and has the other qualities essential to economy and practicability.

Patton's Ironhide, First Coat is composed of inhibitory material. This product is characterized by its remarkable resistance to mechanical abrasion, its great spreading and hiding power, and by remarkable elasticity.

Patton's Ironhide Finishing Coat contains carbon in a fine, practically indestructible form, together with lead as an additional inhibitory ingredient. It possesses many of the properties of Ironhide First Coat, but has the predominating qualities essential to a finishing coat—resistance to mechanical abrasion, as of cinders, dust, etc., absolute imperviousness to moisture, and passiveness in the presence of deleterious fumes and gases.

The pigments employed in this coat are distinct for their great spreading and covering property and, because of their great affinity for oil, easil- remain in suspension, making possible the most uniform coating on metal surfaces.

The vehicle for Ironhide pigments is selected and tested linseed oil, prepared by special treatment.

All the ingredients of Ironhide including driers and thinners are scientifically "balanced" and the product absolutely standardized.

Splendid Suspension of Pigments Means Better Protection

Patton's Ironhide does not "liver," or settle in the can. It remains in splendid suspension. This is an important factor of protection because it

Coal Carriers, Milwaukee-Western Fuel Co., Milwaukee, Wis.

RAILROADS are large users of Patton's Ironhide for a variety of special purposes, including steel structures, semaphores, signal systems, metal roofs, steel frames of rolling stock, and for freight car bodies. The careful observation of their technical departments has established the rust-proofing properties of Patton's Ironhide, and the experience of years has disclosed its toughness, elasticity and resistance to gases, fumes and vibration in this extremely severe service.

makes possible the application of a uniform coating, not possible unless the inhibitory materials of a paint are ground to impalpable fineness, and thoroughly intermingled and in good suspension in the vehicle.

This quality of Patton's Ironhide is distinctive among rust-proofing paints —it is an important factor of protection, not to be lightly disregarded.

Easy Working Quality Saves Labor Costs

The cost of applying paint is always the greatest cost in painting. Steel structures often offer special difficulties in applying the field coat. The labor cost is likely to be high in this work, especially as every square inch of surface must be thoroughly covered for effective rust-proofing. Consequently the free suspension of the pigment in the vehicle, and the easy working quality of Patton's Ironhide directly contribute to a saving in labor costs, effecting a definite saving in the square yard cost of rust-proofing.

The Three-Coat Practice

The purpose of the ordinary shop coat is to give early protection against corrosion.

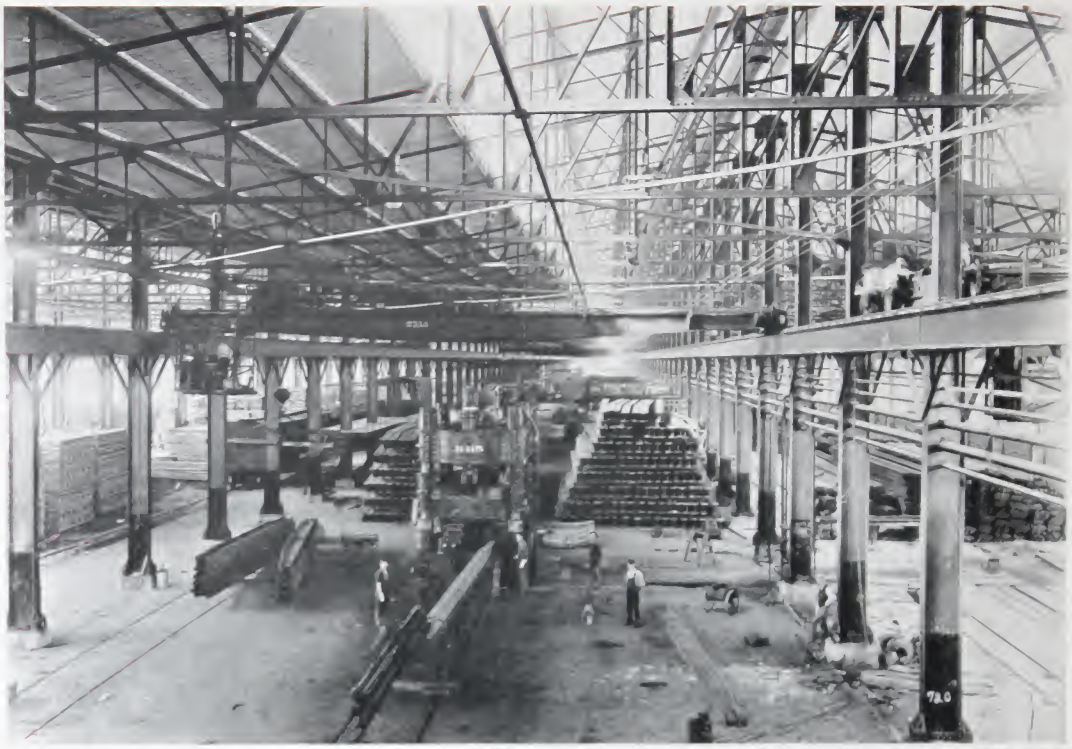
The first field coat is to reinforce the shop coat, and to correct any damage suffered by the shop coat in handling and construction.

Both shop and first field coats are priming coats.

As an aid to inspection, however, it is desirable that the first field coat be slightly different in color than the shop coat, making it easy to detect any "skips" in the first field coat.

This may be accomplished with Patton's Ironhide First Coat, which is used both for shop and the first field coat, by adding a sufficient quantity of Ironhide Finishing Coat to alter the color.

Ironhide First Coat may also be obtained in a brown shade. This provides the standard red of Ironhide First Coat for shop application, and the brown for first field coat.



Bettendorf Axle Co., Bettendorf, Iowa

MACHINERY of all character, pumps, engines, etc., require rust-proofing. They are likely to be much exposed to moisture and steam, are constantly under strains, and are likely to be charged with static or stray electricity all of which expedite the action of rust. Patton's Ironhide provides the essential inhibitory rust-proofing, and is durable under the vibration, heat, grease and oil. It is used by the leading builders of big machinery in the world.

Patton's Finishing Ironhide is black, but can be furnished in a very dark Brewster green.

It has the remarkable suspension of pigment which makes it possible to apply a uniform, inhibitory coating.

It has the unusual spreading capacity conducive to thorough workmanship, and effects a great saving in the cost of application, which together with its great covering and hiding capacity, makes it the conspicuously economical paint in cost.

Patton's Ironhide—First Coat Ironhide and Second Coat Ironhide—provide a genuinely effective rust-proofing process. These coats unite in a homogeneous body impervious to rust-stimulating agents, and at the same time this body has the toughness and elasticity, the imperviousness to gases, and the resistance to abrasion and vibration to afford enduring protection to the surface.

The actual square-yard cost of *maintaining* perfect protection against rust is distinctly modified by the use of Patton's Ironhide, both because of its saving in labor cost, and because it means less frequent renewals.

The more important economy, however, is in the thorough protection it affords against rust-stimulating agents—the effective *armor* it provides against the ravages of the red plague inevitably sure to cause fast deterioration of steel and iron. It forestalls costly replacements, and safeguards against obscure and dangerous weakening of steel and iron members.

Good business economy will not tolerate the least compromise of quality in a paint for this service—and the only paint genuinely effective in arresting rust, and durable in this severe service must be a scientific inhibitory paint of established merit—Patton's Ironhide.

The carbonic acid theory holds that carbonic acid attacks the iron, converting it into a carbonate releasing hydrogen which unites with the oxygen present as air or otherwise, to decompose the ferrous carbonate to ferric hydroxide, or rust, leaving the same amount of acid as was originally present to react as before and

TANKS, stacks, and metal roofs of industrial plants are especially exposed to the red plague of rust because of the abundance of gases and fumes which intensify the ravages of rust. Without protection the metal is quickly pitted, and rust progresses in a short time to a point where it dangerously weakens the structure. Ordinary paint cannot withstand this severe service. It requires a scientific, rust-proofing inhibitory paint—Patton's Ironhide. The difference in color between priming coat and finishing coat makes it easy to be sure that no small surface is unprotected.

Seattle Lighting Co. Gas Tank, Seattle, Wash.

Pittsburgh-Desmoines Steel Co. Watertank, Fort Niagara, N. Y.

form more rust. Scientists now think that rust will take place where H_2CO_3 is not present, but that its presence speeds rusting.

The second theory is the peroxide theory which has but little weight. The supporters of this line of reasoning claim that the iron, oxygen and water, form ferrous oxide F_eO and hydrogen peroxide (H_2O_2), which then unite to form ferric hydroxide leaving an excess of hydrogen peroxide, but as no hydrogen peroxide is found in ordinary rusting, this theory is largely discounted.

The third and most likely theory is the electrolytic. Every metal has a tendency to pass into water solution in the ionic form, assuring a positive charge of electricity and leaving metal negatively charged. To mention electrostatic equilibrium, an equivalent amount of positive electricity must leave the solution by separation of hydrogen ions from dissociated water in form of hydrogen-gas charging that portion of the metal on which the hydrogen separates positively, and leaving the solution negatively charged, producing an electrolytic current. This action takes place not only where the iron is an anode, but as a cathode too, for all that is necessary besides an electrolyte to cause corrosion is a few voltaic couples in the mass, or else free dissociated hydrogen in contact.

Besides the chemical factors there are several physical factors which have considerable influence. Care in the manufacture of the metal itself is very important for the more homogeneous the steel is, the less tendency there is to rust. However, the modern method of making steel must not be blamed entirely for the rusting of steel, but rather the fact that modern systems bring sulphurous acid and chlorine into the air. The weight of the structure itself is a great force, for stress does much to speed the action of rusting.

Inhibition has the effect of rendering the iron or steel passive to chemical action. The phenomenon may result from a mechanical or electrical cause for in some cases it seems to be due to formation of a neutral screen between the corroding agents and the iron while in other cases it seems to be due to a zone of occluded matter or gas which affords galvanic protection. (Extract from "Corrosion of Iron and Steel" by Alfred Lang.)

Specifications

New or Unpainted Work: The surface to be painted must be free from oil, grease and rust. Rust must be removed by wire brushing, scraping or sand blast. Grease must be removed with gasoline or benzine.

All paint must be well brushed out, and nothing larger than a three-inch oval brush used in applying paint.

No paint is to be applied at a temperature below 50 degrees Fahrenheit, in damp or rainy weather, or to a damp or wet surface.

Priming Coat: Apply one coat of Patton's Inhibitive Red Ironhide as it comes in the container. Allow at least three days for drying.

Finishing Coat: Apply one coat of Patton's Finishing Black Ironhide as it comes in the container.

Note: New steel for exterior use should have three coats, the priming coat being followed by a mixture of Red and Black, and then finished with straight Black.

The difference in color between coats permits careful inspection for skips and careless work.

Old Work: All rust and loose paint must be removed by wire brushing or scraping.

One-Coat Work: Touch up all bare spots with Inhibitive Red.

After three days, give entire structure one coat of Finishing Black.

Two-Coat Work and Three-Coat Work: Same instructions as for new work.

Ironhide on Buildings

THE importance of rust-proofing the steel in big buildings is all the more important because the steel is not accessible for inspection after the building is completed. The accident at Charing Cross Station, the collapse of the gas house in New York, and the condition of steel in comparatively new buildings which have been torn down to make space for new buildings, disclose the necessity for a good rust-proofing paint like Patton's Ironhide.

The enclosing of the steel work does not mean the exclusion of moisture—it rather means the lack of ventilation to carry off moisture, which together with the stresses carried by every member of the structure, the static and stray electricity most always present in steel structures cause the greatest stimulation of the rusting process.

First National Bank Building, Milwaukee, Wis.

Milwaukee Public Library, Milwaukee, Wis.

Milwaukee Auditorium, Milwaukee, Wis.

Pantages Theatre, Seattle, Washington

Union Arcade Bldg., Pittsburgh, Pa.

Lincoln High School, Seattle, Wash.

Ironhide on Bridges

THE steel structure of bridges are continuously subjected to moisture and dampness, and railroad bridges are exposed to the action of additional stimulators of rust, such as vibration, soot, sulphureous gases, and acids. Bridge work requires a paint of utmost inhibitory qualities.

The exposure of these structures to extreme heat of summer and cold of winter, to the abrasive action of cinder blasts, and of wind-driven dust and gravel, and the frequent wash of flood waters, demand a paint of toughest, most impervious film, elasticity and resistance to mechanical abrasion. Patton's Ironhide has established its great durability in this severe service, and, by many engineers it is specified without alternative.

Kinnickinnic Ave. Bridge, Milwaukee, Wis.

C. M. & St. P. R. R. Bridge, Milwaukee, Wis.

Bridge at Green Bay, Wis.

Monroe Bridge, Snohomish County, Wash.

Ironhide on Railroads

THE big railroads are among the largest and most consistent users of Patton's Ironhide. On bridge work, signal systems, etc., it is subject to all the paint destroying agents, and the fact that it is in many instances specified without alternative by such expert technical buyers is convincing proof of its value as a rust-proofing paint, and of its durability and economy.

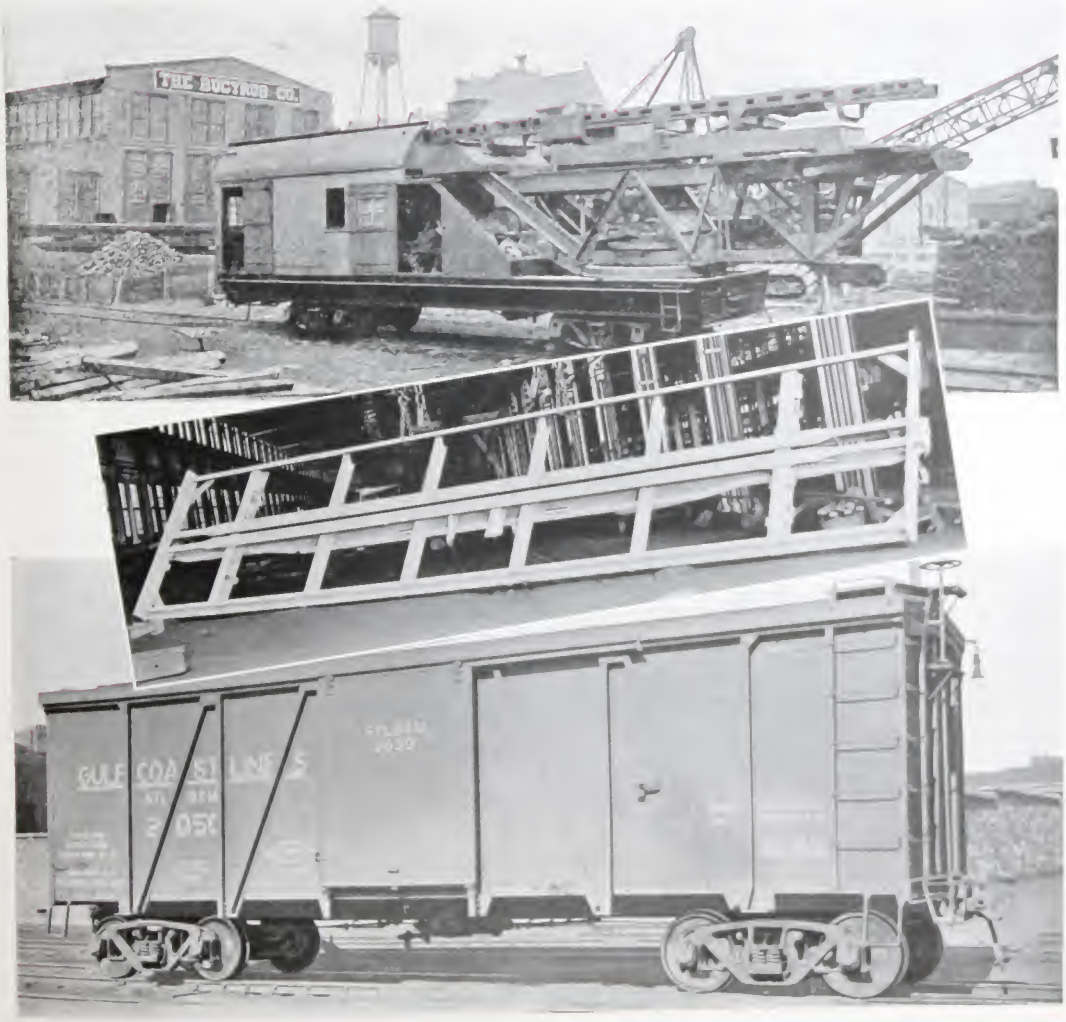
Perhaps the severest abrasive action a paint may encounter is on cars, where it is continuously bombarded by gravel, and cinders, and is subject to the roughest treatment in the loading and unloading of cars.

The fast application of Patton's Ironhide due to easy working and spreading qualities, not only saves labor costs, but effects a saving by decreasing the time a car is out of commission.


ILLINOIS CENTRAL
125 399


I.&G.N.
INTERNATIONAL & GREAT NORTHERN RY.
8500
I. & G. N. 8500


C M & ST P 62 267


THE BUCYRUS CO.
GULF COAST LINES

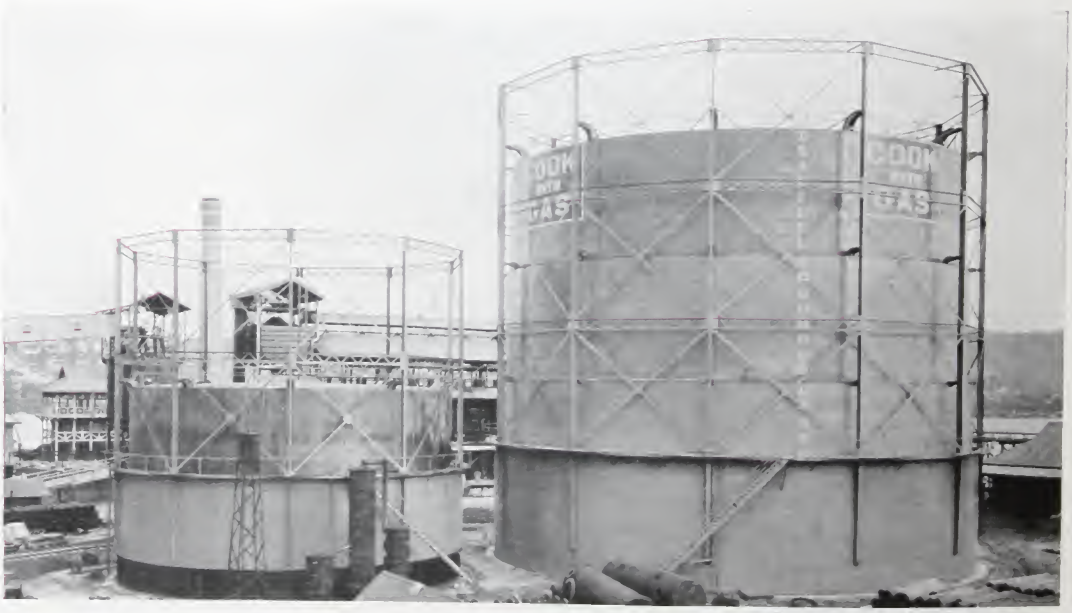
Ironhide on Machinery and in Industrial Plants

MACHINERY, elevators, fire escapes, stacks, tanks, iron fences, trolley poles, fire hydrants, under frames, etc., all are subject to rusting process and require protection against rust—all are subject to the most damaging of paint destroying agents. Ordinarily paint for these purposes is sheer waste. The only paint effective, economical and durable is the highest grade, scientific inhibitory paint—Patton's Ironhide.

Elliott Co., N. Jeannette, Pa.

Illinois Central Elevator, New Orleans, La.

Milwaukee Gas Light Co., Milwaukee, Wis.



Seattle Lighting Co., Seattle, Wash.

Allis-Chalmers Co., West Allis, Wis.

Waukesha Gas and Electric Co., Waukesha, Wis.

Milwaukee Coke and Gas Co., Milwaukee, Wis.

Allis-Chalmers Co., West Allis, Wis.

The Elliott Co., N. Jeannette, Pa.

Patton's Ironhide is Stocked in Large Quantities by the Following Distributers

PITTSBURGH PLATE GLASS COMPANY

Atlanta, Ga.	Cincinnati, Ohio	Kansas City, Mo.	Oklahoma, Okla.
Baltimore, Md.	Cleveland, Ohio	Milwaukee, Wis.	Philadelphia, Pa.
Boston, Mass.	Columbus, Ohio	Minneapolis, Minn.	Pittsburgh, Pa.
Brooklyn, N. Y.	Davenport, Ia.	Memphis, Tenn.	Savannah, Ga.
Buffalo, N. Y.	Detroit, Mich.	New York, N. Y.	St. Louis, Mo.
Birmingham, Ala.	Des Moines, Ia.	New Orleans, La.	St. Paul, Minn.
Chicago, Ill.	Grand Rapids, Mich.	Newark, N. J.	Toledo, Ohio

TEXAS GLASS & PAINT COMPANY

Dallas, Texas Houston, Texas San Antonio, Texas

MIDLAND GLASS & PAINT COMPANY

Omaha, Neb. Denver, Col.

OGDEN PAINT, OIL & GLASS CO.

Ogden, Utah

TIMMS, CRESS & COMPANY

Portland, Ore.

PATTON PAINT COMPANY

Los Angeles, Cal. San Francisco, Cal. Seattle, Wash.

FACTORIES

PATTON PAINT COMPANY

MILWAUKEE, WIS. NEWARK, N. J.


PATTON'S
IRONHIDE
INHIBITIVE RED
PATTON PAINT COMPANY
MILWAUKEE, WIS. — NEWARK, N.J.